

The Role of Ketogenic Diet in Parkinson's and Alzheimer's Disease

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Abstract: Parkinsons disease (PD) is the most common disease associated with aging. This disease is characterized by neurotoxicity, improper denaturation of proteins. They are very complex in origin due to multiple factors, not only genetic but also environmental. Thus, recent research suggests a neuroprotective role for the ketogenic diet in the prevention and treatment of high blood pressure and PC. The purpose of this article is to examine the latest literature on this topic (2016-2022).

Keywords: Parkinsons disease, ketogenic diet, neuroprotection, ketone bodies, beta-hydroxybutyrate.

Parkinson's disease is caused by the destruction of brain cells that produce dopamine. The cause of this deterioration is unknown. Early symptoms of Parkinson's disease include tremors, stiffness, and slowness of movement. Late symptoms may include difficulty walking, emotional problems, and depression. Drugs currently available for the treatment of Parkinson's disease will lose their effectiveness over time and may cause undesirable side effects. A small clinical trial involving seven volunteers with Parkinson's disease who agreed to follow a ketogenic diet for a month. Five people had improved test results after dieting. Although this study did not include a control group, it focused on the potential role of the ketogenic diet in this disease.

Why is the ketogenic diet useful for people with Parkinson's disease? Scientists say ketosis may be the answer. Ketone bodies can bypass damaged fats in the brain and support other vital energy fats. Animal studies have shown that ketone bodies repair neurons. The ketogenic diet has also been proven to have anti-inflammatory effects on the brain.

Since the ketogenic diet was developed to treat epilepsy, scientists have studied its effects on the brain in more depth and how it can help with other neurological disorders. In these studies, the common denominator is the change in metabolism due to ketosis. Further research in the field of ketogenic therapy is needed to advance this potentially useful therapy for Parkinson's disease.

Achieving ketosis can have many benefits, from treating chronic diseases to optimizing performance. Although the benefits are well documented, the underlying mechanism of action is not fully known. Racion enhances the ability of mitochondria, the energy stations of our cells, to meet the energy needs of our body in a way that reduces inflammation and oxidative stress. By optimizing our body's energy use, we strengthen our body's ability to withstand the growing stressors of our modern lifestyle.

According to Dr. David Diamond, "Saturated fats do not clog arteries" coronary artery disease is a chronic disease whose risk can be effectively reduced through a healthy lifestyle. It has been known for 150 years that a high-carbohydrate diet contributes to the accumulation of fat in the blood and obesity. He further claims that "increased fat intake increases cholesterol levels and damages blood vessels." Case's theory that dietary fats increase the risk of cholesterol and heart attack is based on very flawed scientific evidence.

The ketogenic diet, also called the ketosis diet or keto for short, is a method of nutrition that mimics the effect of a diet. When following a diet rich in high-quality fats, sufficient protein and low in pure carbohydrates (minus all carbohydrates in fiber), the body's metabolism begins to use fats as the main source of fuel, rather than carbohydrates. This shift has a significant effect on metabolism in both

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patients and healthy people. The diet promises to improve or reverse many neurological diseases and metabolic disorders. A diet for healthy people is a means of preventing chronic diseases, as well as optimizing cognitive functions and body composition (i. e. fat loss).

The term "ketosis" refers to a byproduct of the breakdown of fat into useful energy, called ketone bodies or ketones for short. This fat can be obtained directly from the food we eat, or from adipose tissue (also known as body fat) that accumulates throughout the body. Ketones are used by the body for direct nutrition. In other words, fat is the same for ketones as glucose is for carbohydrates. Ketosis is defined as the level of ketones in the blood > 0.5 mmol/L.

There are two ways of metabolic transition from glucose to ketones as the main source of energy.

The method of completely stopping the consumption of calories with food has been used for a long time for about 400 years BC to treat diseases. Although this should be done under the supervision of a doctor, when Hippocrates, the father of modern medicine, used this method to treat many diseases, following a diet is a safe, effective (and, as some say, the easiest) way to quickly achieve ketosis. In the average adult, a 48-hour diet usually leads to ketosis. After following this diet, switching to a ketogenic diet will allow you to stay on ketosis. On the first day, it is recommended to start a diet at least 3 hours before bedtime and eat at the same time 2 days later. Although dieting means a lot to many people, macronutrients are described here as a complete restriction, and it is recommended to increase water intake to prevent dehydration.

At the Charlie Foundation, he believed that following a three-month diet was the minimum commitment that allowed the body to fully adapt to a new fat-based fuel source. Since most people who follow a Western diet do not have the opportunity to get optimal fat intake, this period gives the body time to "adapt to fats" through the effective use of dietary fats. There are many dietary patterns that allow you to lead a ketogenic lifestyle, and flexibility is one of the characteristics of the diet, which makes it easier to use it as a lifelong tool to improve your health. Nutritionists can help each patient choose the short-term and long-term options that best suit your lifestyle.

There are various diets that allow you to achieve ketosis. The main distinguishing factor between them is the amount of calories coming from proteins, carbohydrates and fats, which we call "macronutrients" or nutrients that have caloric value in our food. These three macronutrients differ in many ways, namely the number of calories and how the body uses them. Fat is a high-calorie macronutrient: it contains 9 calories per gram, 4 calories per gram of carbohydrates and proteins. In a homeostatic state, the body uses fats and carbohydrates to produce energy, and protein to repair the cells of our body. Although this is generally the case, excessive protein intake can lead to the breakdown of excess protein in the body to glucose (in which carbohydrates are broken down).

Ketogenic diet the result of oral administration is a very high fat content (90%), low carbohydrate content (8%) and normal protein content (7%). For 100 years, it has been used as a non-drug control mechanism for refractory epilepsy in children and other diseases studied over time, including neurodegenerative diseases (Alzheimer's disease and Parkinson's disease). The restriction of carbohydrates in the PK prevents an increase in the level of circulating insulin after eating, circulating fatty acids, which are converted into ketone bodies. In fact, the ketogenic diet increases the production of ketone Ana (b-hydroxybutyrate, acetoacetate and acetonone) in the liver mitochondria, and the first two of them cross the blood-brain barrier and oxidize, reaching higher levels of ATP (adenosine triphosphate) than glucose. In addition, in studies on rats, an increase in the activity of glutathione peroxidase in the hippocampus was observed (1). Thus, thanks to these antioxidants, methods were carried out to study the properties of the most recent and relevant clinical review studies on this topic (2016-2023). "Parkinson's disease and the ketogenic diet" Databases Google Scholar and Scoris Taylor et al. A clinical study confirming the expediency and effectiveness of treatment of patients with PK 15 who received very low or moderate blood pressure, medium-chain triglycerides for three months, with prolonged cessation of the ketogenic diet after 1 month. 10 out of 15 results achieved during a strict diet improved the average score for Parkinson's disease by 4.1 points. Cognitive assessment on the disease assessment scale improved after 1 month of dieting and recovered to its original state. The



results of patients with very mild and moderate blood pressure were transmitted, since no one has serious symptoms of Parkinson's disease and diseases of the nervous system associated with the ketogenic diet, which affect not only the patient, but also all those involved in it, and lead to death. One of the most serious diseases of the nervous system is Parkinson's disease. The link between the ketogenic diet and Parkinson's disease is the keto diet, known for its many health benefits. It has grown rapidly over the past decade, and millions of people have followed this diet for illness or other reasons.

The purpose of the article is to study the relationship between the ketogenic diet and Parkinson's disease. Very little is known about Parkinson's disease. It is a disorder of the nervous system that affects movement. In humans, it starts so slowly that it cannot be felt until it worsens. The symptoms appear gradually.

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